

IN THE CLAIMS

1. (previously presented) A multiaxial connection osteosynthesis system, for the spine, comprising a bone anchor member having a head, a connector having a first inwardly deformable portion adapted to receive said head and integral with a second portion, said second portion having a U-shaped opening having an open end remote from said first inwardly deformable portion and a seat, said seat being integrally formed with said connector, said open end adapted to receive a connecting member along an axis, said first and second portions extending along said axis, and a clamping means moveable along said axis for clamping said connecting member in said second portion, wherein said connector is arranged so that, when said clamping means loads said connecting member in said second housing in the direction of said axis, said connecting member loads said seat to inwardly deform said first portion and immobilize said head therein.

2. (previously presented) The system according to claim 1 wherein said first inwardly deformable portion includes a chamber with a concave surface.

3. (previously presented) The system according to claim 1 wherein said first inwardly deformable portion includes a cavity adapted to receive part of said head.

4. (previously presented) The system according to claim 1 wherein said head has a spherical part.

5. (previously presented) The system according to claim 1, wherein said connector includes a slot in said first portion.

6. (previously presented) The system according to claim 5 wherein said U-shaped opening has an axis and two branches at a distance from and facing each other.

7. (previously presented) The system according to claim 6, wherein said slot is perpendicular to said axis of the U-shaped opening.

8. (previously presented) The system according to claim 7, wherein said clamping means include a locking member adapted to engage between said branches of said U-shaped opening.

9. (previously presented) The system according to claim 8, wherein said clamping means include a flange adapted to fit around said branches of said U-shaped opening.

10. (previously presented) The system according to claim 9, wherein said branches of said U-shaped opening have a screwthread.

11. (previously presented) The system according to claim 10, wherein said screwthread has a face substantially perpendicular to an axis of said screwthread and oriented in a penetration direction of said clamping means on said connector.

12. (previously presented) A multiaxial connection osteosynthesis system comprising:

a bone anchor member having a head;

a connecting member;

a connector having a first housing with a recess adapted to receive said head and having an inwardly deformable portion connected to said first housing and a second housing having a

U-shaped opening and a seat adapted to receive said connecting member, said seat including at least two raised ends and said seat being integrally formed with said connector, said U-shaped opening of second housing having an open end remote from said first housing, said open end being configured to receive said connecting member therein by movement of said connecting member along an axis toward said seat;

a locking member moveable along said axis for clamping said connecting member against said raised ends of said seat in said second housing wherein said raised ends apply a force against said first housing as said locking member clamps said connecting member, inwardly deforming said deformable portion thereby immobilizing said head therein.

13. (previously presented) The system according to claim 12, wherein said first housing includes a chamber having a concave surface.

14. (previously presented) The system according to claim 12, wherein said first housing includes a cavity adapted to receive part of said head.

15. (previously presented) The system according to claim 12, wherein said head has a spherical part.

16. (previously presented) The system according to claim 12, wherein said connector includes a slot located in said first housing.

17. (previously presented) The system according to claim 14, wherein said connector includes a slot located in said first housing.

18. (previously presented) The system according to claim 12, wherein said U-shaped opening has an axis and at least two branches, said branches separated by a distance from and facing each other.

19. (previously presented) The system according to claim 18, wherein said slot is perpendicular to said axis of said U-shaped opening.

20. (previously presented) The system according to claim 18, wherein said locking member is adapted to be engaged between said branches of said U-shaped opening.

21. (previously presented) The system according to claim 18, wherein said locking member includes a flange.

22. (previously presented) The system according to claim 20, wherein said locking member includes a flange.

23. (previously presented) The system according to claim 18, wherein said branches of said U-shaped opening have a screw thread.

24. (previously presented) The system according to claim 23, wherein said screw thread comprises a face substantially perpendicular to said axis of said thread and oriented in the penetration direction of said locking member on said connector.

25. (previously presented) A multiaxial connection osteosynthesis system comprising:
a bone anchor having a head;
a connecting member;

a connector having a first housing with a recess for receiving said head of said bone anchor and a second housing having a U-shaped opening and having a seat adapted to engage said connecting member, said seat being integrally formed with said connector, said seat further having at least two raised ends and said first housing having walls separated by two slots, said slots extending from an exterior of said connector to said recess of said first housing, said U-shaped opening having an open end remote from said first housing and configured to receive said connecting member along an axis,; and

a locking member for clamping said connecting member on said seat in said second housing wherein an axial force applied by said locking member along said axis causes said connecting member to engage said raised ends on said seat and deflect said walls of said first housing inwardly about said slots to cause said recess of said first housing to lock said head of said bone anchor within.

26. (previously presented) The system according to claim 25, wherein said first housing includes a chamber having a concave surface.

27. (previously presented) The system according to claim 25, wherein said first housing includes a cavity adapted to receive part of said head.

28. (previously presented) The system according to claim 25, wherein said head has a spherical part.

29. (previously presented) The system according to claim 25, wherein said connector includes a slot located in said first housing.

30. (previously presented) The system according to claim 25, wherein said U-shaped opening has an axis and at least two branches, said branches separated by a distance from and facing each other.

31. (previously presented) The system according to claim 30, wherein said slots are perpendicular to said axis of said U-shaped opening.

32. (previously presented) The system according to claim 30, wherein said locking member is adapted to be engaged between said branches of said U-shaped opening.

33. (previously presented) The system according to claim 30, wherein said locking member includes a flange.

34. (previously presented) The system according to claim 30, wherein said branches of said U-shaped opening have a screwthread.

35. (previously presented) A multiaxial connection osteosynthesis system comprising:

- a bone anchor having a head;

- a rod member;

- a connector extending along an axis having a first portion with a recess adapted to receive said head, said recess having inwardly deformable walls, said first portion axially aligned with a second portion having a U-shaped opening and a seat adapted to receive said rod, said seat being integrally formed with said connector, said second portion integral with said first portion with said seat adjacent said walls, said U-shaped opening having a open end remote from said first portion spaced from said seat along an axis; and

a means for clamping said rod against said seat in said second portion, wherein an axial force applied by said clamping means along said axis causes said rod to engage a means integral with said seat wherein a resultant force is applied against said walls inwardly deforming said walls of said recess of said first portion thereby locking said head of said bone anchor within.